UNITED STATES PATENT AND TRADEMARK OFFICE

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1   UNITED STATES PATENT AND TRADEMARK OFFICE

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4   BEFORE THE BOARD OF PATENT APPEALS
5   AND INTERFERENCES

6   _____

7

8   *Ex parte* GORDON J. HARRIS

9   _____

10

11   Appeal 2007-1516
12   Application 09/891,020[1]
13   Technology Center 2100

14   _____

15

16   Decided: January 15, 2008

17   _____

18

19

20 Before LANCE LEONARD BARRY, ALLEN R. MACDONALD, and
21 CAROLYN D. THOMAS, *Administrative Patent Judges.*
22

23 THOMAS, C., *Administrative Patent Judge.*

24

25   DECISION ON APPEAL

26   I. STATEMENT OF THE CASE

27   Appellant appeals under 35 U.S.C. § 134 from a final rejection

28 of claims 1-11, 14-20, and 23-25 entered April 19, 2006. We have

29 jurisdiction under 35 U.S.C. § 6(b).

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1 [1] Application filed June 25, 2001. The real party in interest is EMC
2 Corporation.

1   We affirm-in-part.

2   A. INVENTION

3   Appellant invented a system, method, and computer readable medium
4for moving network data to a storage resource, including a physical memory
5page comprising a plurality of physical memory clusters. (Specification 2:1-
66).

7

8   B. ILLUSTRATIVE CLAIMS

9   The appeal contains claims 1-11, 14-20, and 23-25. Claims 1, 6, and
1014 are independent claims. As best representative of the disclosed and
11claimed invention, claims 1, 3, 5, 19, and 23 are reproduced below:

12   1.   A method comprising:

13   moving data from a network layer into a physical memory page,
14wherein the network layer receives and transmits the data packets that are
15odd-sized, arrive asynchronously, and contain metadata embedded with real
16data and the physical memory page comprises a plurality of physical
17memory clusters;

18   creating a logical page providing an aligned view of the data;

19   establishing a relationship between the logical page and the
20physical memory page such that the logical page is associated with the
21plurality of physical memory clusters; and

22   forwarding a list of the logical pages to a storage resource such
23that the data referenced by the logical pages are stored subsequently into a
24storage resource.

25

26

1   3.   The method of claim 1 further comprising:

2   creating a plurality of logical pages based on the offset and
3length of the data associated with a network write operation.

4

5   5. The method of claim 1 further comprising:

6   merging an existing physical memory cluster with a new
7physical cluster based on the offset and length of the existing physical
8memory cluster and based on the offset and length of the new physical
9memory cluster.

10

11   19.   The method of claim 1 wherein the network layer uses a
12transport control protocol/internet protocol (TCP/IP) to transmit and receive
13the data over a computer network.

14

15   23.   The method of claim 1, wherein the data packets arrive in a
16sequence that is different from an original sequence in which they were
17transmitted.

18
19   C. REFERENCES

20   The references relied upon by the Examiner in rejecting the claims on

21appeal are as follows:

22	Vishin	US 5,860,146	Jan. 12, 1999
23	Nijhawan	US 6,374,341 B1	Apr. 16, 2002
24			(filed Sep. 2, 1998)
25	Richter	US 2003/0097481 A1	May 22, 2003
26			(filed Oct. 22, 2002)
27	Westbrook	US 6,934,760 B1	Aug. 23, 2005
28			(filed Feb. 4, 2001)
29			

Applicant Admitted Prior Art (AAPA), *see* Specification, page 1, lines 28-12.

D. REJECTIONS

The Examiner entered a Final Rejection on April 19, 2006 with the following rejections which are before us for review:

1. Claims 1-11, and 14-18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nijhawan in view of Vishin and further in view of Applicant Admitted Prior Art (AAPA).

2. Claims 19 and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nijhawan-Vishin-AAPA, and further in view of Richter.

3. Claims 23-25 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nijhawan-Vishin-AAPA, and further in view of Westbrook.

II. PROSECUTION HISTORY

Appellant appealed from the Final Rejection and filed an Appeal Brief (Br.) on September 6, 2006. The Examiner mailed an Examiner's Answer (Answer) on December 4, 2006. Appellant filed a Reply Brief (Reply Br.) on February 5, 2007.

III. ISSUE(S)

Whether Appellant has shown that the Examiner erred with respect to the rejection under 35 U.S.C. § 103(a).

IV. PRINCIPLES OF LAW

Appellant has the burden on appeal to the Board to demonstrate error in the Examiner's position. See *In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) ("On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of prima facie obviousness or by rebutting the prima facie case with evidence of secondary indicia of nonobviousness.") (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)).

"Section 103 forbids issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.'" *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1734 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). *See also KSR*, 127 S. Ct. at 1734 ("While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.")

1   V. ANALYSIS

2   *Grouping of Claims*

3   In the Brief, Appellant argues claims 1, 2, 4, 6, 7, 9, 10, 14, 15, and 17

4as a group. In other words, for claims 2, 4, 6, 7, 9, 10, 14, 15, and 17

5Appellant merely repeats the same argument made for claim 1. Thus, the

6Board selects representative claim 1 to decide the appeal for this group.

737 C.F.R. § 41.37(c)(1)(vii)(2006). Accordingly, the remaining claims in

8this group stand or fall with claim 1.

9   Appellant separately argues claims 3, 5, 19, and 23.

10   Appellant argues claims 3, 8, and 16 as a group. For claims 8 and 16,

11Appellant repeats the same argument made for claim 3. We will therefore

12treat claims 8 and 16 as standing or falling with claim 3.

13   Appellant argues claims 5, 11, and 18 as a group. For claims 11 and

1418, Appellant repeats the same argument made for claim 5. We will

15therefore treat claims 11 and 18 as standing or falling with claim 5.

16   Appellant argues claims 19 and 20 as a group. For claim 20,

17Appellant repeats the same argument made for claim 19. We will therefore

18treat claim 20 as standing or falling with claim 19.

19   Appellant argues claims 23-25 as a group. For claims 24 and 25,

20Appellant repeats the same argument made for claim 23. We will therefore

21treat claims 24 and 25 as standing or falling with claim 23.

22   *See also In re Young,* 927 F.2d 588, 590 (Fed. Cir. 1991).

23

1   *Claims 1, 2, 4, 6, 7, 9, 10, 14, 15, and 17*

2   Appellant contends that "Vishin's network 114 is not understood to be
3a network layer or to have a network layer." (Br. 10-11.)

4   Vishin's Fig. 9 discloses at element 114 a network interconnectivity
5including switches. The Examiner contends that "one of ordinary skill in the
6art would appreciate that in networks, network switches operate at the data
7link layer (layer 2) and sometimes at the network layer (layer 3) to filter and
8forward data packets between network segments, . . . it should include the
9step of moving data from a network layer into memory stores . . ." (Answer
106 and 12). We agree.

11   The Examiner supports this contention by offering a word definition
12of the word "switch" from the Webopedia Computer Dictionary,
13http://www.webopedia.com/TERMS/s/switch.html. (*See* Answer 12.)
14Appellant argues that "the Webopedia reference is a newly cited reference
15that was never introduced during the prior prosecution." (Reply Br. 2.) We
16disagree.

17   Instead, we find that the Examiner's Webopedia definition is merely
18introduced to illustrate that a network layer could be inherent to Vishin
19network 114 when a switch is included therein.

20   Claims are given their broadest reasonable construction "in light of
21the specification as it would be interpreted by one of ordinary skill in the
22art." *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d at 1364 (Fed. Cir. 2004).
23The Board is required to use a different standard for construing claims than

1that used by district courts. We have held that it is error for the Board to
2"appl[y] the mode of claim interpretation that is used by courts in litigation,
3when interpreting the claims of issued patents in connection with
4determinations of infringement and validity." *In re Zletz,* 893 F.2d 319, 321
5(Fed. Cir. 1989); accord In re Morris, 127 F.3d 1048, 1054 (Fed. Cir. 1997)
6("It would be inconsistent with the role assigned to the PTO in issuing a
7patent to require it to interpret claims in the same manner as judges who,
8post-issuance, operate under the assumption the patent is valid."). Instead,
9as we explained above, the PTO is obligated to give claims their broadest
10reasonable interpretation during examination. *In re Am. Acad. of Sci. Tech.*
11*Ctr.,* 367 F.3d 1359, 1369 (Fed. Cir. 2004).

12   In the instant case, Appellant has not provided a lexicographic
13definition for the term "network layer". As such, "network layer" could
14mean any layer in a network component. The Examiner has shown that
15Vishin discloses a "switch" in Fig. 9, which can be construed as being in the
16network layer or the data link layer. Thus, we find the Examiner has
17provided an adequate reason why an artisan would have construed Vishin's
18network 114 as including a network layer.

19   Appellant further contends that "Vishin's description of the
20network 114 does not contain features that would suggest that the network
21114 uses a network layer. Such features could include, for example, the
22routing of data packets . . . ." (Br. 11.)

1   Vishin discloses that "if most of a large file is stored at a first location

2in the system 100, but a segment of the file has been moved to a particular

3cluster 102 for updating, a first RPTE would be used to indicate the position

4of the entire file at the first location, and a second RPTE stored at a lower

5index position in the same group as the first RPTE would be used to indicate

6the position of the file segment that has been moved." (Vishin, col. 6, ll. 39-

746.) In other words, Vishin discloses moving a *segment* of a data file if

8necessary. We find that the term "moving a segment of data" suggests the

9transmitting and receiving of data packets.

10   Therefore, we find that Vishin' network 114 would have suggested

11the use of a network layer having a switch and the transmitting and receiving

12of data packets.

13   Appellant also contends that "[t]here is nothing in Vishin that suggests

14that network 114 is anything more than a simple connection between

15processor clusters, which could, for example, be implemented by serial

16connection that sends data one bit at a time, not as packets. Thus, neither

17Nijhawan nor Vishin provide any suggestion as to why one skilled in the art

18would be motivated to modify their systems with AAPA to transmit and

19receive data packets, and in particular, to transmit and receive data packets

20that are odd-sized, arrive asynchronously, and contain metadata embedded

21with real data." (Br. 13.)

22   For at least the reasons noted above, we do not find Appellant's

23argument persuasive. As noted *supra*, we find that Vishin suggests the

1movement of data packets. Furthermore, Appellant admits that Ethernet

2networks transmit and receive data packets that are odd-sized, asynchronous,

3and having metadata embedded therein (Spec. 1:8-12). The Examiner

4contends that the "references are all directed to virtual memory management

5systems to access data over a computing network." (Answer 6.)

6   It appears that the weight of Appellant's argument is aimed at the

7contention that Vishin fails to disclose transmitting and receiving data

8packets, and having already dismissed this contention *supra*, we find that the

9ordinary artisan who possessed knowledge and skills relating to computer

10networks that include data packets would have been capable of combining

11AAPA with Vishin and Nijhawan in the manner suggested by the Examiner.

12   We find that the Appellant has failed to show error in the Examiner's

13rejection. Therefore, we affirm the rejection of claim 1 and of claims 2, 4, 6,

147, 9, 10, 14, 15, and 17, which fall therewith.

15

16   *Claims 3, 8, and 16*

17   Appellant contends that "[t]here is nothing in Nijhawan that discloses

18or suggests that a logical page number or an associated logic page is based

19on the offset and length of the data associated with a network write

20operation." (Br. 14.) Appellant further contends that "there is nothing in

21Nijhawan that discloses or suggest that the logical page *is created* based on

22data associated with a network write operation. Rather, . . ., Nijhawan's

1logical page is created based on a mapping to a physical page." (Reply Br.
29.)

3   The Examiner contends that Nijhawan teaches that an "offset can be
4used to define the page number such that a 19-bit logical page number is
5provided and a 13-bit offset is provided as an offset within the 8K page . . ."
6(Answer 15) and that Appellant acknowledges that "in Nijhawan, a logical
7page can assist a network write operation . . . (Answer 15)." We agree.

8   Nijhawan discloses that "if the page being mapped by 32-bit linear
9address 81 is an 8K page, then the upper 9 bits of the 10+12 bit offset can be
10used to define the page number such that a 19-bit logical page number is
11provided and a 13-bit offset is provided as an offset within the 8K page (col.
128:40-44)." Thus, Nijhawan suggests a logical page being based on an offset
13and length of the data associated with a network write operation.

14   We find that the Appellant has failed to show error in the Examiner's
15rejection. Therefore, we affirm the rejection of claim 3 and of claims 8 and
1616, which fall therewith.

17

18   *Claims 5, 11, and 18*

19   Appellant contends that ". . . Nijhawan discloses allocating and
20reallocating blocks of physical memory depending on memory requirements
21of an operating system. The Examiner incorrectly interprets the term
22'reallocated' as meaning the same as 'remerged' or 'merged.' . . . Allocating
23memory blocks is not the same a[s] merging memory blocks." (Br. 15.)

1Appellant further contends that "[a]lthough, claim 5 does not literally recite
2combining the new and existing physical memory clusters, the feature of
3'merging of an existing physical memory cluster with a new physical
4memory' inherently requires that the new and existing physical memory
5clusters be combined." (Reply Br. 10.) We Agree.

6   The ordinary and usual meaning of "merging" is to cause to combine,
7unite, or coalesce. *Merriam-Webster's Collegiate Dictionary*, p. 777 (11th
8Edition 2005). The Examiner proffered teachings in Nijhawan merely
9disclose allocating memory, which denotes setting aside or apart for a
10specified purpose. Absent a teaching or suggestion of a merging of existing
11memory cluster with new memory cluster, we are unpersuaded of a case of
12obviousness. Therefore, we reverse the rejection of claims 5, 11, and 18.

13

14   *Claims 19 and 20*

15   Appellant contends that "neither Nijhawan nor Vishin disclose or
16suggest anything that would motivate a person of ordinary skill in the art to
17modify their systems to transmit data over a network as data packets, a
18feature required by AAPA and Richter. Therefore, to combine Nijhawan,
19Vishin, AAPA, and Richter in the manner suggested by the Examiner, a
20person of ordinary kill in the art would need to rely upon the Appellant's
21invention as a roadmap." (Br. 17.) We disagree.

22   As noted *supra*, Vishin has been found to disclose the transmission of
23data packets. As such, we find that the Appellant has failed to show error in

1the Examiner's rejection. Therefore, we affirm the rejection of claim 19 and

2of claim 20, which fall therewith.

3

4   *Claims 23-25*

5   Appellant contends that "[t]he Examiner's proposed combination of

6Nijhawan, Vishin, AAPA, and Westbrook amounts to a hindsight

7combination, which as discussed above, is improper as a matter of law."

8(Br. 18.) Appellant further contends that "[b]oth AAPA and Westbrook

9require networks that transmit data as data packets; however, neither

10Nijhawan nor Vishin disclose or suggest anything that would motivate a

11person of ordinary skill in the art to modify their systems to transmit data

12over a network as data packets." (Reply Br. 14.) We disagree for the same

13reasons noted *supra* regarding Vishin's disclosure of data packets.

14   We find that the Appellant has failed to show error in the Examiner's

15rejection. Therefore, we affirm the rejection of claim 23 and of claims 24

16and 25, which fall therewith.

17

18   VI. CONCLUSIONS

19   We conclude that Appellant has not shown that the Examiner erred in

20rejecting claims 1-4, 6-10, 14-17, 19, 20, and 23-25.

21   Thus, claims 1-4, 6-10, 14-17, 19, 20, and 23-25 are not patentable.

1   We conclude that Appellant has shown that the Examiner erred in

2rejecting claims 5, 11, and 18. Thus, the record before us does not show

3claims 5, 11, and 18 to be unpatentable.

4

5   VII. DECISION

6   In view of the foregoing discussion, we affirm the Examiner's

7rejection of claims 1-4, 6-10, 14-17, 19, 20, and 23-25, and reverse the

8Examiner's rejection of claims 5, 11, and 18.

9   No time period for taking any subsequent action in connection with

10this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R.

11§ 1.136(a)(1)(iv) (2006).

12

13   <u>AFFIRMED-IN-PART</u>

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